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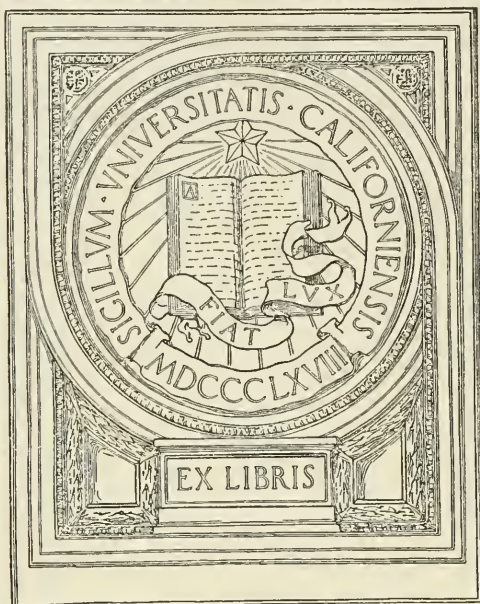


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MAY 29, 1895

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SPECIALIZATION IN EDUCATION

JOHN MAXSON STILLMAN

*Professor of Chemistry, Leland Stanford Junior University*

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ADDRESS TO THE GRADUATES

DAVID STARR JORDAN

*President, Leland Stanford Junior University*

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PALO ALTO, CALIFORNIA

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APPROVED BY THE  
FEDERAL BUREAU OF INVESTIGATION



## SPECIALIZATION IN EDUCATION.

JOHN MAXSON STILLMAN.

Education, in the somewhat restricted sense in which we commonly use the term, is the systematic effort to economize and to augment the mental and moral development of the individual. It attempts to equip him at the least possible cost of time and waste of energy, with the most important results of the accumulated thought and experience of mankind. Its highest aim is the fitting of the individual to be of the greatest possible service to the race. In general it is also true that the man fitted to be of greatest service to the race, is also best fitted to improve his own condition, and to increase his own comfort and happiness. A system of education which should ignore the first and greater object would contain the seed of its own dissolution, for in the long run society is banded together against organized selfishness.

In former ages, systematic education was designed only for the priesthood. Later it became also a preparation for the other so-called learned professions — law and medicine — and a distinguishing badge, an accomplishment, a luxury for the sons of gentlemen. The “educated classes” formed a caste, and often a narrow and a jealous caste. The increase and wider distribution of wealth and the increasing demands of a progressive civilization, have tended to break down the barriers hedging an educated caste. Step by step the conviction has gained ground that education is the right of the many, rather than the privilege of the few.

Gradually society is becoming convinced that universal education, and a generous education, is one of the few good things of which there can not be too much, and the best paying investment for her security and prosperity. The immense sums expended from the public treasury, or through private munificence, for educational purposes, are capital which society has invested not for individual benefit at the expense of others, but for her own best interests, and we may depend upon it that in the end she will see to it that she receives the full interest due, in terms of honest and efficient service rendered to the material development or the social welfare of humanity.

It is evident that the methods and materials of education must vary with the needs of the time and the ever-changing conditions of civilization. The best education that could be devised in the seventeenth century differs from the best that the nineteenth has developed, and the twentieth century will bring new requirements. To a certain extent the education of today is the outgrowth from past conditions and past needs. On the other hand, the best education of today is the result of a more or less successful effort to forecast the conditions and requirements of the future. It can not be otherwise. The youth now receiving instruction in thousands of class-rooms in the United States are preparing for a life-work in the future, and, in so far as may be, their training has been shaped to meet the probable conditions of their social environment. From a study of the history of the past and the conditions of the present we endeavor to discover tendencies of human thought and action which will be influential in determining the conditions of the future. The more clearly these tendencies can be discerned the more successfully may be laid the foundation of future usefulness. The earnest teacher has faith in a progressive development of human society, however slow it may be, and also in the possibility through education of influencing this development. If he has not this faith, there is lacking an important source of inspiration.



The problems, then, that face advanced educators today are commensurate in their importance with the problems which already confront our civilization, or which more or less distinctly are discerned through the mists which veil the future.

The century now nearing its close has been a period of unexampled material and industrial progress, and I believe also of social and political improvement as well. Though we are confronted with wholesale corruption, rascality, and crime, it is yet reassuring to remember that they are generally and clearly recognized to be corruption, rascality, and crime, and not called honesty, rectitude, and beneficence, even by the most corrupt exponents of public opinion.

Many causes have conspired to make the past century thus remarkable in its development: rapid methods of transit, rapid and cheap intercommunication of ideas, railroads, steamships, telegraph — but more than all, the increase of education and the consequent emancipation of thought from the thralldom of old philosophies and dead dogmas.

The impulse arising from the study of natural and physical science has played no small part in this stimulation of latent human possibilities. Naturally there have arisen from the changing conditions of life new social, political, and industrial problems, making necessary a more varied and different educational preparation. The great variety of schools for general and special training, and the diversity of ideas as to function and methods of education, are evidence of the attempt to suit educational methods to the various needs of the time.

The century soon to be ushered in will doubtless carry forward, perhaps still more rapidly, the industrial and material development of civilization. Its achievements may be greater than those of the nineteenth; but it would be strange if the future century were not beset with difficulties and dangers commensurate with the magnificence of its promise in other directions.

I am no pessimist. I do not believe the golden age of humanity is past, that society is going from bad to worse, and social anarchy hovers over us, sometime to engulf the dissipated remains of civilization. Nor, on the other hand, am I ready to accept that now at last we stand on the shores of Utopia, and that the troubled ages of war, social tyranny, and enthroned selfishness are about to give place to that era longed for by poets of all ages —

“ When the war-drum throbs no longer  
And the battle-flags are furled  
In the parliament of man, the federation of the world.”

Yet, slowly or rapidly, with perhaps many a pendulum swing of progression and retrogression, we must and do look forward to a gradual improvement in social conditions, in political wisdom, in honesty, and in love for one's fellowmen. And it is to education that we must look to make the world of a hundred years hence a little better on the average than as we know it today. The problems which are to confront the future generations, more numerous and more difficult, as the conditions of life become more complex, must be met by a more general education of the people, and by education better adapted to the needs of the social organism. Problems already face us which tax to the utmost the knowledge and ability of the best trained experts — problems affecting the mutual relations between nations, international law, international commerce, or finance; equally difficult questions of internal administration — currency, tariff, taxation; the relation of the government to the individual; charities and correction — they need not be further enumerated, we all recognize them. Many social questions once simple and easily regulated become more difficult and of greater import through the growing complexity of the social machinery. Thus the centralization of capital into mammoth corporations or trusts, with the power that springs from a more than kingly

wealth, has given rise to questions of great public importance — questions which troubled but little when competition was freer and the relations of supply and demand less restricted. The State has found itself compelled to interfere to protect the public from the abuse of power by wealthy corporations, and perhaps no task before us is of greater importance than that of protecting the public from such organizations, and at the same time protecting great business enterprises from an equally unjust and tyrannous abuse of the power of legislation. Concentration of capital has made possible organization of labor for its own protection, and here again a giant strength is aroused which public policy must control, that it be not used against the rights of others, nor the welfare of the State.

The problems of civilization are becoming more intricate with the discovery of new fields of human activity, with the increasing development of older professions and industries, and with more intimate international relations, commercial, financial, and political. Every department of human thought and activity feels the impulse of this increasing complexity, and demands in consequence more thorough knowledge and greater skill to deal with the changing conditions.

How are we to acquire the wisdom and ability to deal with such questions on the basis of equity and honesty and with intelligent understanding of the factors involved in their settlement? Only, I am convinced, by the gradual elevation of the people to a higher average of honesty and intelligence, and further than that by the thorough special education of a larger number of men to act as leaders of public opinion in their respective branches of knowledge. The greater the number of such leaders, the more thorough their training, and the more varied the lines of thought in which such leaders exist, the more rapid and free from danger will be the march of progress. When knowledge, skill, and integrity take the lead, and public opinion is intelligent enough to discriminate between the voice of wis-

dom and the flattery and sophistry of the demagogue, then only may we look for the realization of a reasonable Utopia. Far from that goal as we now are, it is nevertheless the part of practical patriotism and humanity to strive ever toward it, that we may avoid to the greatest extent possible the wrong solutions of those ever-recurring problems of society — ever-recurring because, as has been well said, if a question be not *rightly* settled it always comes up again for settlement.

Two hundred years ago any man of ability and of good schooling for the time might readily have mastered all that was then known about steam engineering. Any statesman of the time of Queen Elizabeth might easily have learned all that existed of international law. How much greater the preparation now required to master those branches! A similar increase in subject matter and in complexity of relations, and a corresponding need of more special and more thorough training, may be found in all the sciences and their applications, in mercantile and manufacturing business, law, medicine, statecraft, literature, or philosophy. Where a hundred years ago a fairly good preparatory education and some natural adaptability to the subject formed sufficient foundation to enable a man to earn a front rank in his profession, today the man without thorough special training finds himself forced to take a subordinate rank. There is an increasing tendency to subdivide the professions and occupations, once practiced as a whole — or, as we say, to specialize. The lawyer takes up the practice of corporation law, patent law, commercial law, and so on; the physician chooses some subdivision of medicine or surgery; the engineering profession shows the same tendency.

This tendency toward specialization is a practical recognition of the importance of more thorough knowledge and of the increasing labor or difficulty of obtaining sufficient preparation for satisfactory work in all branches of a given profession.

Modern education must take cognizance of this great diversity of work in life, and of the greater need of training adapted to these diverse objects. In all departments of human activity where brain is more essential to success than muscle (and where is it not?) the increasing differentiation of civilization is making more and more exacting and more difficult the determining of what kind of education is adapted to produce the most effective preparation. It becomes evident that we must devote more years to this preparation, or there must be found some way to employ the present average student period to better advantage.

On the other hand, we must face the fact that the average length of human life is not increasing; nor does the inherited capacity for education in the human race increase in proportion to the growth of civilization. As another has said, the evolution of civilization is more rapid than that of the race. It does not seem probable that the time devoted to schooling in lower and higher institutions can be on the average lengthened much beyond the present limits. Eventually a standing army of students is cheaper to maintain than a standing army of soldiers, as the world will sooner or later realize. But any standing army of non-producers operates as a heavy tax on the community, and this fact will militate against any material extension of that part of life devoted to study by the ever-increasing army of students attending the higher schools of all kinds, professional, technical, or general.

It is then necessary, if education is to keep pace with the march of civilization, that, by constantly improving methods and plans of instruction, we shall learn better to economize the student's time, more thoroughly to marshal his capabilities toward some worthy aim, more effectively to render active his potential energy. For whenever society has invested the time and the productive energy of the student she will demand her reward in the assurance that the recipient of her bounty shall ultimately render a service adequate to the time and cost of education. In no



other way can such service be rendered than for the student to so utilize his years of preparation that he shall be able and willing to use his powers and faculties for the greatest possible good of society. To faithfully discharge this obligation he must prepare himself to take as high a place of usefulness as his native ability and his opportunities render possible. That man or woman who accomplishes less of good or useful work than is possible to his or her ability and opportunities is to that extent committing a sin against society.

To further such an aim, the student must bend his energies toward preparing himself to do in some useful line of activity the best that in him lies. To meet the increasing differentiation of life, specialization in education is necessary; and to achieve a maximum of efficiency for the individual there must be an early adaptation of plan and of methods to the end to be attained. The greatest possible service to the best interests of humanity is the ultimate goal of all education, and to him who brings to the cause of human progress full-hearted and efficient service, will be made liberal return in gifts of wealth, of fame, of respect, or of love, according to the degree or the aim of such service.

I should perhaps state more explicitly what I mean by specialization in education. I understand by that phrase, devoting the necessary portion of the student's allotted time in the University in such a way as will enable him to become to some extent identified with some branch of knowledge or some field of human thought. This object implies the laying of a thorough foundation in all branches of knowledge clearly related to the chosen specialty, and the cultivation of all those faculties and powers necessary to its successful prosecution. It also implies the study of the specialty itself to the extent of acquiring a certain measure of familiarity with its methods, and some degree of mastery. By mastery I do not mean the complete familiarity which can only result from a life-time of labor in the



chosen field. A specialty pursued to the extent possible during the time available to most students must indeed leave the earnest student with a keen sense of the narrow limits of his knowledge. Nevertheless, rightly pursued, it should at least impart to him a feeling of confidence as to his power to carry forward in a worthy and intelligent manner the work thus well begun.

After all, it is this sense of power, this confidence in one's ability to keep growing in power, this consciousness that in some line of thought the mind is out of leading strings, that is one of the greatest incentives to a high range of life-work; and it is the lack of this confidence that often bars the way to the greatest usefulness, and that causes so many men to fail in utilizing the advantages of education, falling back into stations which require little or no special preparation.

Knowledge is indeed power — not, however, the superficial knowledge of a multitude of things, but the thorough knowledge of some useful thing. A general knowledge of many things adds to the pleasure of living; it is a source of profit and enjoyment to ourselves and to our friends; it enables us better to understand the interests and to sympathize with the aspirations of our neighbors. It assists us to judge wisely concerning many things conducive to the right conduct of life; it helps to make the good citizen and the good man. But it will not replace the ability to do something or other better than most of our neighbors, something for which we have been more thoroughly educated than they. Not every man can achieve greatness in his special line of work; not every man can be a Darwin, an Agassiz, a Helmholtz, or an Emerson; but every man of fair ability and industry may so utilize his opportunities that he may do serviceable work in the line he chooses for his own.

It is no longer practicable to leave specialization till the student days are over. The differentiation of occupation and the accumulated mass of special knowledge necessary

to success is too great. The beginning of specialization must be made under the direction of those competent to instruct and whose occupation it is to impart their knowledge. Nor should the benefit arising from specialization be confined to the fortunate few who can afford to prolong their University work beyond the average four years, though these will indeed usually reap more than proportionate advantage. It is better to make some sacrifice of general studies rather than to deprive the many of the benefits that arise from thus focusing their energies on some congenial subject, to the end that they may acquire therein some confidence in their knowledge and their power.

The danger that lies near specialization in the University is that which arises from an education too narrow and one-sided. We frequently hear of the evils of over-specialization, and of a class of narrow and unpractical specialists. It is beyond question true that a narrow specialization, begun prematurely and resting on too inadequate a foundation, will to a great extent defeat its own objects. Even if the student should under some circumstances achieve a fair measure of success in his specialty, he may be too narrow in his views and out of touch with the progress of society — particularly if he be by nature a man of narrow mind. But, even so, which of the two extreme types is worse: the man of narrow training, lacking in the usual characteristics of the guild of scholars, out of touch perhaps with the common thought of the leaders of humanity, but capable of doing useful work in his special field of labor; or the highly cultured and accomplished college graduate with a smattering of twenty -ologies and -isms, but with not enough useful knowledge of anything to enable him to find a place in the world's work — a drone in the social hive? I question if there exists a more essentially narrow man than this latter type of educated man — for he can never see beyond the horizon of his own shallow experience, and from his self-constructed throne he judges the rest of mankind with the complacent assurance born of a fancied superiority.

We must discriminate with care between the ideas of over-specialization and of premature or unwise specialization. I do not know that over-specialization is possible if the subject be a useful one and the preparation for it sufficiently broad and thorough. The higher we build the pinnacles of special knowledge the broader and deeper must be the foundation that supports them, and the more carefully must it be adapted to its purpose. Too limited a differentiation is unwise, also, if the subject matter is not of importance commensurate with the time and labor bestowed upon it. The University must not admit to the dignity of specialties subjects of trivial importance, or which do not demand for their preparation work of University grade. It must also insist that the preparation for special studies be sufficiently broad and fundamental. If these conditions be observed, there need be no fear of the danger of over-specialization. Nor, on the other hand, does specialization rightly considered tend to exclude from education all those influences which go to make the gentleman and the scholar. It merely provides throughout the college course of the student that "one increasing purpose runs."

The study of any worthy subject as a specialty, be it history, physics, law, biology, engineering, or philology, if it be prosecuted with the proper spirit and with due reference to all that is demanded for a thorough mastery of the science, may contain within it the germs of all that is essential to the world's best citizen, and as to the efficiency of such an education neither the rostrum, the salon, nor the club furnishes the criterion. It is not the curriculum of the University that determines the value of the education so much as it is the adaptability of the work to the individual, the spirit of the student, his zeal, his application, and the thoroughness of his accomplishment. There are many studies that are *useful* in cultivating that breadth of sympathy and of understanding which we call culture, but no one study is *essential*. Even the correct use of one's native language is no absolute essential, valuable and important

though it be. Particular studies have no abstract educational value ; they are only useful as they find something responsive in the mind of the student. One man finds through the study of history the great lessons of humanity, and bends his life to fulfill the laws of social evolution as they reveal themselves to his mind. Another learns the love of truth and the reverence for law through the study of the forces of nature.

I doubt if there is any one thing in the consideration of higher education more important for its future development than that a man's education must be more carefully adapted to the structure of his mind than is his clothing to his body. Specialization in education with a variation corresponding to the differentiation of modern civilization necessarily implies an elasticity suited to the mental capabilities and inclination of the student. It is more difficult to change the inherited and acquired mental constitution than it is to change the inherited and acquired physical characteristics. As we have not yet the means of measuring the mind of a man as the tailor measures his body, we must be guided largely by his own tastes or the evidence he gives of ability in one line or another. Education can but develop existent faculties and furnish the tools for their exercise. It can not create mental faculties ; it can only enable the man, by the wise direction of his energies, to make the best use of those powers he possesses.

In presenting this plea for more specialization than is recognized in the curricula of most American Universities I desire not to be misunderstood. I believe that every man and woman should receive the most complete education that circumstances will permit. No one can know too much nor know too thoroughly whatever of good and useful there is to know. No capital of money or of time is better invested for one's own welfare or for the good of one's fellows than that invested in education. The broader the foundation and the more varied the mental training the greater are the potentialities for future usefulness. Nor

can any man foresee what destiny has in store, nor be sure that the vocation he aspires to in youth will be the occupation of his manhood's years. He is wise who plants many kinds of seed to provide harvests of satisfaction for future years. In variety of knowledge and of interests are the germs of nobler pleasures and greater usefulness. Only when a large number of men and women are educated to a position of intelligent appreciation of the needs of society, and to an unselfish aspiration for the common welfare, can the wisest leaders of thought and action exert their due influence. For, as educated men and women, as has been said,

"We are pledged  
To understand, to live the truth we know,  
And help men so to live and understand."

Recognizing clearly these great aims and responsibilities of higher education, and desiring to see them fulfilled to the utmost, I yet believe that as there is no particular curriculum essential to these aims it is possible for the student to select a course of study which, while it shall furnish all the essentials of a liberal education, may nevertheless bear a clear relation to his special line of work; and also that this ideal course must be as varied in detail as are the minds of men and the avocations of educated men. To the end that general training be not sacrificed to the need of specialization, and that time may be found for more effective work in the specialty without prolonging the average period of study, the work of the lower or preparatory schools must be made more thorough and effective. There should be fewer mechanical methods, and more attention to individual capacity and adaptability. The subjects taught need not be many, but they should be fundamental in their departments: language, literature, history, mathematics, natural or physical science. They should be taught in such a way as to hold the attention and to develop to the greatest possible degree the powers of observation, reasoning, and reflection. For this more teachers and better teach-



ers will be needed — and this applies to schools of grammar and primary grade to an even greater degree than to high schools. These improvements are certain to come, for we are but just beginning to realize that money spent in education is, even from a pecuniary standpoint, a paying investment for society. More money is wasted in every civilized country from lack of knowledge than would many times pay for the cost of proper education — could we but discover the proper education. Every improvement in educational methods necessitates improvements in all departments of education. Each new higher school or university is born to new responsibilities, every succeeding generation of students to a richer educational birthright; and that institution which fails to meet its responsibilities or misinterprets the direction in which lies true development will sooner or later experience the inexorableness of the law of human progress.

“ It seeth everywhere and marketh all:  
Do right — it recompenseth! do one wrong —  
The equal retribution must be made,  
Though DHARMA tarry long.

“ It knows not wrath nor pardon; utter-true  
Its measures mete, its faultless balance weighs;  
Times are as nought: tomorrow it will judge,  
Or after many days.”

Finally, let us keep in view that whatever be the extent or kind of training which in any given case or under any given circumstances, it is practicable to impart, it is above all important to inculcate the spirit of earnest endeavor, the love of truth, and reverence for the laws which underlie alike the forces of nature and of human life. Let us realize also the value of opportunities and leisure for quiet reflection, for unhurried thinking — times of respite from the rush and whirl of that mighty torrent of modern activity which threatens to sweep us away like bubbles on its surface. We can not attempt to know all things; it becomes us therefore to confine our attention and to concentrate our



energies upon fewer things, that opportunity may yet remain for such mental leisure, with its blessed train of elevating influences, to steal upon the mind, sweetening it with the promise of a golden age to come, when intelligence, integrity, and morality shall rule the earth.

As was written thirty years ago by our California poet, Sill :

Haste! haste! O laggard, leave thy drowsy dreams!  
Cram all thy brain with knowledge; clutch and cram!  
The earth is wide, the universe is vast—  
Thou hast infinity to learn—O haste!

Haste not, haste not, my soul. Infinity?  
Thou hast eternity to learn it in.  
Thy boundless lesson through the endless years  
Hath boundless leisure. Run not like a slave—  
Sit like a king, and see the ranks of worlds  
Wheel in their cycles onward to thy feet.



## ADDRESS TO THE GRADUATES.

DAVID STARR JORDAN.

*To the Class of '95 —*

Today we give you the last of your childhood's toys, the college degree. The degree, with all its titles and its privileges, is yours. But it will not help you much in life. It belongs to the babyhood of culture. It represents hopes and ideals, the promise of youth — but men and women are judged by achievements, not by dreams. You will value your diploma for the growth to which it bears witness. For the warm friendships and sweet associations you will value it again. And still you will prize it as a card of admission to the noblest body of men and women in the world, the band of Collegiate Alumni. All this is now yours. Lay the diploma away now with the best of your youthful treasures. Today you take your place in the world of men. You have reached your majority. One by one, you have passed the goals your teachers have set for you. The goals of the future must be of your own choosing. It is yours now to think, and therefore to act for yourselves. This you can surely do. It will be no new experience. Your training in the past has been such, we trust, that the new freedom will be new in name only. It will come to you with no shock of surprise, for in freedom you have been trained for freedom.

You of the Class of 1895 have occupied a unique position toward this University. You were the first, the band of pioneers. It has been yours to lead, never to follow. Those

who in future years are drawn to these halls may weigh and compare, balance privilege with privilege, opportunity with opportunity ; their choice will be governed by influences which in part have come out from you. They will measure the future by the past. For you there was no past. You trusted the forces the University seemed to represent. You have given your best years of training to this institution when it had no record of achievement, no wealth of tradition. You have been University makers. The highest value of tradition lies in the making of it ; the noblest wealth is the wealth of promise. It is the place of the pioneer to make for the future, not to share in the past.

When nearly four years ago we came for the first time together in this quadrangle, you with your teachers were the University. The University lives in the changing units that pass through its halls. The life of its beginning was yours alone. On that first day of October, 1891 — a day memorable to all of us, at least — it was my fortune to say these words to you :

“ It is for us as teachers and students in the University's first year to lay the foundations of a school which may last as long as human civilization. Ours is the youngest of the universities, but it is heir to the wisdom of all the ages, and with this inheritance it has the promise of a rapid and sturdy growth. Our University has no history to fall back upon ; no memories of great teachers haunt its corridors ; in none of its rooms appear the traces which show where a great man has ever lived or worked. No tender associations cling, ivy-like, to its fresh new walls. It is hallowed by no traditions ; it is hampered by none. Its finger-post still points forward. Traditions and associations it is ours to make. From our work the future of the University will grow as a splendid lily from a modest bulb. But the future with its glories and its responsibilities will be in other hands. It is ours at the beginning to give the University its form, its tendencies, its customs. The power of precedent will cause to be repeated over and over

again everything that we do — our errors as well as our wisdom. It becomes us, then, to begin the work modestly, as under the eye of the coming ages. We must lay the foundations broad and firm, so as to give full support to whatever edifice the future may build.”

Four years is a short time as we measure history, even the history of universities. But it is a long time when we consider all that can take place in it. These four years have been hallowed by the noblest courage and devotion you and I have ever known. The self-sacrifice which we know, though the world does not, and by virtue of which we are together here today, has left its mark on every one of you. You have learned to know how wealth and power can be expressed in terms of helpfulness. In helpfulness alone can wealth or power find consecration.

Again these four years are long when measured by the growing thoughts of growing minds. They have been long enough for the University to place on you its ineffaceable stamp. Men and women of Stanford you shall be so long as you live, and longer — so long as your memory shall last. The beloved name of Leland Stanford Jr. has fallen to you as an heritage. In the future it shall stand for what you make it. It has been yours to help frame once for all its definition. You have placed your mark on the University, and the generations that follow cannot change this mark, they can only deepen it. In your foot-steps the students of the future must stand. You are the pioneers. Wherever you may go, in whatever situation you may be placed, you will embody the spirit of the Stanford University.

In these four years we have made some history, formed some associations, uttered some distinctive word. What shall our message be? I can not answer this question. No one can answer it now, for the message must be expressed by each one of you in his own way, and to the people whom the incidents and happenings of life shall bring about him as his neighbors.

Some part of this message lies in the words of Emerson : "The best political economy is the care and culture of men." The care and culture of men does not mean their coddling, but their training — not help from without, but growth from within. The harsh experience of centuries has shown that men are not made by easy processes. Character is a hardy plant ; it thrives best where the north wind tempers the sunshine.

The life of civilized man is no simple art, no automatic process. To make life easy is to bring it to failure. The civilization to which we are born makes heavy demands upon those who take part in it. Its rights are all duties ; its privileges are all responsibilities. Its penalties are terrible upon those who do not make their responsibilities good. And these responsibilities are not individual alone. They fall upon all who are bound together in social or industrial alliance. If we are to bear one another's burdens, we must see that no unnecessary burdens are laid upon us by our indifference or ignorance. There is no safety for the Republic, no safety for the individual man for whom the Republic exists, so long as he or his fellows are untrained or not trained aright.

So there is no virtue in educational systems unless these systems meet the needs of the individual. It is not the ideal man or the average man who is to be trained, it is the particular man, as the forces of Nature have made him. His own qualities determine his needs. "A child is better unborn than untaught." A child, however educated, is still untaught if by his teaching we have not emphasized his individual character, if we have not strengthened his will and its guide and guardian, the mind.

The essence of manhood lies in the growth of the power of choice. In the varied relations of life the power to choose means the duty of choosing right. To choose the right one must have the wit to know it and the will to demand it. In the long run, in small things as in large, wrong choice is punished by death. No republic can live,



no man can live, in a republic in which wrong is the repeated choice either of the people or of the State.

All education must be individual, fitted to individual needs. That which is not is unworthy of the name. A misfit education is no education at all. Every man that lives has a right to some form of higher education. For there is no man that would not be made better and stronger by continuous training. I do not mean, of course, that the conventional college education of today could be taken by every man to his advantage. Still less could the average man use the conventional college education of any past era. Higher education has seemed to be the need of the few, because it has been so narrow. It was made for the few. Its type was fixed and pré-arranged, and those whose minds it did not fit were looked upon by the colleges as educational outcasts. The rewards of investigation, the pleasures of high thinking, the charms of harmony, have never yet been for the multitude. To the multitude they must be accessible in the future. Not as a gift, for nothing worth having was ever a gift. Rather as a right to be taken by those who can. To yield the higher education that humanity needs the college must be broad as humanity. No spark of talent man may possess should be outside its fostering care. To fit man into schemes of education has been the mistake of the past. To fit education to man is the work of the future.

The traditions of higher education in America had their origin in social conditions very different from ours. In the Golden Age of Greece each free man stood on the back of nine slaves. The freedom which might have come to the ten was the birthright of the one. To train the tenth man was the function of the early university. A part of this training must be in the arts by which the nine were kept in subjection.

The Universities of Paris and Oxford and Cambridge rose for the purpose of training the lord and the priest. And to these schools and their successors as time went on

fell the duty of training the gentleman and the clergyman. Only in our day has it been recognized that the common man had part or lot in higher education ; for now he has come into his own, and he demands that he too may be noble and gentle. His own lord and king he is already, and in the next century we shall see the common man installed as his own priest. And through higher education he must gain fitness for his work, if he gains it at all. And he must gain it, for the future of civilization is in his hands. The world can not afford to let him fail. All the ages have looked forward to the common man as their "heir apparent." The whole past of humanity is staked on his success. The old traditions are not sufficient for him. The narrow processes by which gentlemen were trained in mediæval Oxford are not adequate to the varied demands of the man of the twentieth century. Heir to all the ages he must be — and there are ages since, as there were before the tasks set in these schools became stereotyped as culture. The need of choice has become a thousand-fold greater with the extension of human knowledge and human power. The need of choosing right is steadily growing more and more imperative. If the common man is to be his own lord and his own priest in these strenuous days, his strength must be as great, his consecration as intense, as it was with those who were his rulers in ruder and less trying times. The osmosis of classes is still going on. By its silent force it has "pulled down the mighty from their seats and has exalted them of low degree." Again, educate our rulers ; for we find that they need it. They have not yet in the aggregate the brains nor the conscience nor the force of will that fits them for the task the fates have thrown upon them.

If the civilization of the one is shared by the ten, it must increase ten-fold in amount. If it does not, the Golden Age it seems to represent must pass away. To hold the civilization we enjoy today is the work of higher education. Every moment we feel it slipping from our hands. Hence every moment we must strive for a fresh hold. "Eternal

vigilance," it was said of old, "is the price of liberty." And this is what was meant. The perpetuation of free institutions rests with free men. The masses, the mobs of men, are never free. Hence the need of the hour is to break up the masses. Let them be masses no more, but living men and women. The work of higher education is to draw forth from the multitude the man. To tyranny, confusion is succeeding; and the remedy for confusion is in the growth of men who cannot be confused.

This University, more than any other in the world, has recognized the need of the individual student as the reason for its existence. It has held that if we are to make men and women out of boys and girls, it will be as individuals, not as classes. The best field of corn is that in which the individual stalks are most strong and most fruitful. Class legislation has always proved pernicious and ineffective, whether in a university or in a state. The strongest nation is that in which the individual man is most helpful and most independent. The best school is that which exists for the individual student. Our University is not an aggregation of colleges, departments, or classes — it is built up of young men and women. The student is its unit. Its basal idea of education is that each student should devote his time and strength to what is best for him; that no force of tradition, no rule of restraint, no bait of a degree, should swerve any one from his own best educational path. As Professor Anderson has said: "The way to educate a man is to set him at work; the way to get him to work is to interest him; the way to interest him is to vitalize his task by relating it to some form of reality." No man was ever well trained whose own soul was not wrought into the process. No student was ever brought to any worthy work except by his own consent.

So the University must not drive, but lead. Nor in the long run should it even lead, for the training of the will is effected by the exercise of self-guidance. The problem of human development is to bring men into the right path by their own realization that it is good to walk therein.

The student must feel with every day's work that it has some place in the formation of his character. His character he must form for himself, but higher education gives him the materials. His character gathers consecration as the work goes on if he can see for himself the place of each element in his training. Its value he has tested and he knows that it is good, and its results he learns to treasure accordingly.

Individualism in education is no discovery of our times. It was by no means invented at Palo Alto, neither was it born in Harvard nor in Michigan. The need of it is written in the heart of man. It has found recognition wherever the "care and culture" of man has been taken seriously.

A Japanese writer, Uchimura, says this of education in old Japan :

"We were not taught in classes then. The grouping of soul-bearing human beings into classes, as sheep upon Australian farms, was not known in our old schools. Our teachers believed, I think instinctively, that man (persona) is unclassifiable, that he must be dealt with personally — i. e., face to face and soul to soul. So they schooled us one by one, each according to his idiosyncracies, physical, mental, and spiritual. *They knew every one of us by his name.* And as asses were never harnessed with horses, there was but little danger of the latter being beaten down into stupidity, or the former driven into valedictorians' graves. In this respect, therefore, our old-time teachers in Japan agreed with Socrates and Plato in their theory of education.

"So naturally the relation between teachers and students was the closest one possible. We never called our teachers by that unapproachable name, Professor. We called them *Sensei*, men born before, so named because of their prior birth, not only in respect of the time of their appearance in this world, which was not always the case, but also of their coming to the understanding of the Truth.

"It was this, our idea of relationship between teacher

and student, which made some of us to comprehend at once the intimate relation between the Master and the disciples which we found in the Christian Bible. When we found written therein that the disciple is not above his master, nor the servant above his lord, or that the good shepherd giveth his life for his sheep, and other similar sayings, we took them almost instinctively as things known to us long before."

Thus it was in old Japan. Thus should it be in new America. In such manner do the oldest ideas forever renew their youth, when these ideas are based not on tradition nor convention, but in the nature of Man.

The best care and culture of man is not that which restrains his weakness, but that which gives play to his strength. We should work for the positive side of life. To get rid of vice and folly is to let strength grow in their place.

The great danger in Democracy is the seeming predominance of the weak. The strong and the true seem to be never in the majority. The politician who knows the signs of the times understands the ways of majorities. He knows fully the weakness of the common man. Injustice, violence, fraud, and corruption are all expressions of this weakness. These do not spring from competition, but from futile efforts to stifle competition. Competition means fair play. Unfair play is the confession of weakness.

The strength of the common man our leaders do not know. Ignorant, venal, and vacillating the common man is at his worst, but he is also earnest, intelligent, and determined. To know him at his best is the essence of statesmanship. His power for good may be used as well as his power for evil. It was this trust of the common man that made the statesmanship of Lincoln. And under such a leader the common man ceases to be common. To know strength is the secret of power. To work with the best in human nature is to have the fates on your side. He who strikes as they strike has the force of Infinity in his blows. He who defies them wields a club of air.



"A flaw in thought an inch long," says a Chinese poet, "leaves a trace of a thousand miles." If collective action is to be safe, the best thought of the best men must control it. It is the ideal of statesmanship to bring these best thoughts into unison. The flaw in the thought of each one will be corrected by the clear vision of others. And this order and freedom, clear vision and clean acting, we have the right to expect from you. Knowledge is power, because thought is convertible into action. Ignorance is weakness, because without clearness of purpose action can never be effective.

The best political economy is the care and culture of men. The best spent money of the present is that which is used for the future. The force which is used on the present is spent or wasted. That which is used on the future is repaid with compound interest. It is for you to show, that effort for the future of which you are the subjects is not wasted effort. That you will do so we have no shadow of doubt. If its influence on you and you only were the whole of the life of the University we love, it would be worth all it has cost. The money and the effort, the faith and devotion these halls have seen, would not be wasted. It will abide in the hearts of men, and so long as California shall live the Leland Stanford Jr. University will be justified in you. You are her children — first-born, and it may be best-beloved — and in the ever-widening circle of your work she shall rejoice. For your influence will be positive and therefore effective. You will stand for the love of man and the love of truth. No one can love man aright who does not love truth better. And in the end these loves are alike in essence.

The foundation of a university, as Professor Howard has told us, may be an event greater in the history of the world than the foundation of a state. By its life is it justified. The state at the best exists for the men and women that compose it. Its needs can never be the noblest, its aims never the highest, because it can never rise above the pres-



ent. Its limit of action is that which now is. The university stands for the future. It deals with the possibilities of men, with the strength and virtue of men which is not realized. Its foundation is the co-operation of the strong, its function to convert weakness into strength. The universities of Europe have shaped the civilization of the world. The universities of the world will shape the growth of man so long as civilization shall abide.

To the care and culture of men and women this University has been dedicated. As I said to you when we came together so I say to you again :

“The Golden Age of California begins when its gold is used for purposes like this. From such deeds must rise the new California of the coming century, no longer the California of the gold seeker and the adventurer, but the abode of high-minded men and women, trained in the wisdom of the ages and imbued with the love of nature, the love of man, and the love of God. And bright indeed will be the future of our State if, in the usefulness of the University, every hope and prayer of the founders shall be realized.”









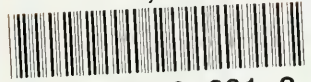




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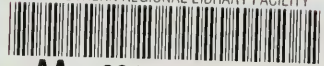
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